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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,287	03/24/2004	Yasushi Sugaya	1065.1029D	3921
21171	7590	06/29/2006	EXAMINER	
STAAS & HALSEY LLP JIM LIVINGSTON SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			TRAN, DZUNG D	
			ART UNIT	PAPER NUMBER
			2613	
DATE MAILED: 06/29/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/807,287

Applicant(s)

SUGAYA, YASUSHI

Examiner

Dzung D. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 5, 8, 11, 14 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujita et al. U.S. patent no. 6,008,935.

Regarding claim 1, Fujita discloses an optical amplifier gain control apparatus for detecting peaks of wavelength division-multiplexed light, comprising:

a tunable optical filter (abstract, figure 2, element 30, column 4, line 55) having a bandwidth for selectively passing light of each wavelength of wavelength-division-multiplexed light,

peak detection means for detecting the peaks of the light output from said tunable optical filter (abstract, figure 2, element 60, column 4, line 56).

Regarding claim 2, Fujita discloses a tunable wavelength filter sweeper for periodically outputting light of each wavelength from said tunable

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optical filter (abstract, figure 2, element 40, column 4, lines 55- 56, column 7, lines 27-35).

In considering claim 5, Fujita discloses in Figure 2, an optical amplifier gain control apparatus for detecting peaks of wavelength division-multiplexed light, comprising:

optical level control means 100 for controlling the optical level of WDM light;

optical branching means 20 for branching portion of WDM light output from said optical level control means 100;

a tunable optical filter (abstract, figure 2, element 30, column 4, line 55) having a bandwidth for selectively passing light of each wavelength of wavelength-division-multiplexed light;

peak detection means for detecting the peaks of the light output from said tunable optical filter (abstract, figure 2, element 60, column 4, line 56);

feedback means (e.g., a feedback loop from 20, 30, 50, 60, 90 to 100) for inputting a feedback signal to said optical level control means 100 in such a manner that maximum peak value will become a set value.

In considering claim 8, Fujita discloses in Figure 2, an optical amplifier gain control apparatus for detecting peaks of wavelength division-multiplexed light, comprising:

an optical amplifier 10 for amplifying wavelength multiplexed light;

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a tunable optical filter (abstract, figure 2, element 30, column 4, line 55) having a bandwidth for selectively passing light of each wavelength of wavelength-division-multiplexed light;

peak detection means for detecting the peaks of the light output from said tunable optical filter (abstract, figure 2, element 60, column 4, line 56);

feedback means (e.g., a feedback loop from 20, 30, 50, 60, 90 to 100) for inputting a feedback signal to said optical level control means 100 in such a manner that maximum peak value will become a set value.

In considering claim 14, Fujita discloses in Figure 2, an optical amplifier gain control apparatus for detecting peaks of wavelength division-multiplexed light, comprising:

an optical amplifier 10 for amplifying wavelength multiplexed light;

optical level control means 100 for controlling the optical level of WDM light;

a tunable optical filter (abstract, figure 2, element 30, column 4, line 55) having a bandwidth for selectively passing light of each wavelength of wavelength-division-multiplexed light;

peak detection means for detecting the peaks of the light output from said tunable optical filter (abstract, figure 2, element 60, column 4, line 56);

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feedback means (e.g., a feedback loop from 20, 30, 50, 60, 90 to 100) for inputting a feedback signal to said optical level control means 100 in such a manner that maximum peak value will become a set value

In considering claim 17, Fujita discloses in Figures 12 and 2, an apparatus for controlling wavelength division-multiplexed light, comprising:

- a first optical fiber amplifier 90 of Figure 12, for amplifying wavelength multiplexed light;

- optical level control means 100 for controlling the optical level of WDM light;

- a second optical fiber amplifier (e.g., the optical amplifier unit of Figure 2 that used inside of the optical amplifier 90 of Figure 12) for amplifying wavelength multiplexed light output from the optical level control means 100;

- a tunable optical filter (abstract, figure 2, element 30, column 4, line 55) having a bandwidth for selectively passing light of each wavelength of wavelength-division-multiplexed light;

- peak detection means for detecting the peaks of the light output from said tunable optical filter (abstract, figure 2, element 60, column 4, line 56);

- feedback means (e.g., a feedback loop from 20, 30, 50, 60, 90 to 100) for inputting a feedback signal to said optical level control means 100 in such a manner that maximum peak value will become a set value

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In considering claim 11, Fujita discloses in Figure 5, the control circuit 101 for detecting and calculating the power ratio of input light to the optical amplifier 10 and the output light of the optical amplifier 10.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 6, 12, 15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. U.S. patent no. 6,008,935 in view of Mathis U.S. patent no. 4,726,644.

In considering claims 4, 6, 12, 15 and 20,

Fujita differs from claims 4, 6, 12, 15 and 20 of the present invention in that Fujita does not specific discloses wherein one or more other tunable optical filters are cascade-connected to said tunable optical filter. Mathis discloses one or more other tunable optical filters are cascade-connected (Figure 13b, column 9, lines 48-50). At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to include the cascade-connected optical filter that is disclosed by Mathis. One of ordinary skill in the art would have been motivated to do this since cascade-connected tunable optical filter

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offers advantages of provide a shaper attenuation, i.e., narrower passband is achieved with the cascaded filters (col. 9, lines 50-61 of Mathis).

5. Claims 3, 7, 13, 16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. U.S. patent no. 6,008,935 in view of Bousselet et al. U.S. patent no. 6,466,345.

In considering claims 3, 7, 13, 16 and 21, Fujita differs from claims 3, 7, 13, 16 and 21 of the present invention in that Fujita does not specific discloses a light equalizing filter located with said tunable optical filter.

Bousselet discloses in Figure 1, a light equalizing filter 7 (col. 4, lines 45-46).

At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to include the light equalizing filter that is taught by Bousselet. One of ordinary skill in the art would have been motivated to do this in order to equalizing the output optical power from the optical tunable filter. Thus, it provides the better optical to the photo-detector.

6. Claims 9, 10, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. U.S. patent no. 6,008,935

Regarding claims 9 and 18, Fujita further discloses in Prior art, Figure 1, the power detector means (e.g., control circuit 100) for detecting the total power of the WDM light output from the optical amplifier 10.

At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to include the total optical power detection circuit



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of Prior art, Figure 1 in the system of Figure 2. One of ordinary skill in the art would have been motivated to do this in order to determined the total optical power of the WDM light that output from the amplifier which is an importance value for equalizing the system optical power.

Regarding claims 10 and 19, Fujita further discloses a photoelectric conversion means 50 for converting light output from said tunable filter 30.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Fujita et al. U.S. Patent no. 6,204,959. Signal light monitor and optical amplifier using the same

b. Shibuya et al. U.S. Patent no. 5,880,874. Optical equalizer and optical amplifier

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye, can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dzung Tran  
06/26/2006